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ABSTRACT

Confirmatory factor analysis was used to examine the construct validity of a new instrument measuring perceptions toward classroom management: the Inventory of Classroom Management Style (ICMS). Classroom management was defined as a multifaceted process that includes three broad dimensions: (1) what teachers believe about students as persons; (2) what teachers do to enable students to learn; and (3) what teachers do in terms of discipline. The ICMS was designed to measure these dimensions with 48 Likert items. Beliefs were classified on a continuum that reflects the degree of teacher power over students. Data were collected from 238 teachers with the ICMS and a demographic questionnaire. The confirmatory factor analysis was conducted with the principal components analysis with a varimax solution. Results indicate the existence of three subdimensions. However, the three identified subdimensions (Instructional Management, Classroom Communication and Interaction, and Student Success) did not fully confirm the three hypothesized constructs of the ICMS. In addition, results show that the language used to construct items is a factor in item-response patterns. Two appendixes present the framework of the inventory and the format of inventory items. Two tables are included. (Contains 12 references.) (Author/SLD)

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An Examination of the Construct Validity of the Inventory of Classroom Management Style

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ABSTRACT

The purpose of this study was to utilize confirmatory factor analysis to examine the construct validity of a new instrument measuring perceptions toward classroom management, the Inventory of Classroom Management Style (ICMS). Within this study, classroom management was defined as a multi-faceted process that includes three broad dimensions -- what teachers believe about students as persons, what teachers do to enable students to learn, and what teachers do in terms of discipline. The ICMS was designed to measure these dimensions with 48 Likert items. Beliefs were classified on a continuum that reflects the degree of teacher power over students.

Data were collected from 238 teachers on the ICMS and a demographic questionnaire. Descriptive statistics on items and subscale scores were computed. The confirmatory factor analysis was conducted using an principal components analysis with a varimax solution. The adequacy of the solution was judged based on the following criteria: 1) factor loading greater than >.30; 2) item loaded primarily on one factor; 3) meaningful interpretation of scree plots and eigenvalues; and 4) maximization of variance explained.

Results indicate the existence of three subdimensions; however, the three identified subdimensions (Instructional Management, Classroom Communication and Interaction, and Student Success) did not fully confirm the three hypothesized constructs of the ICMS. In addition, results showed that the language used to construct items is a factor in item response patterns.

An Examination of the Construct Validity of the Inventory of Classroom Management Style

The terms classroom management and discipline are often used interchangeably. However, it is important to distinguish between the two. The literature generally defines classroom management as a broad, umbrella term that includes, but is not limited to, discipline concerns (Johns, MacNaughton, & Karabinus, 1989; Lemlech, 1988; Wolfe, 1988; Wolfgang & Glickman, 1980, 1986). Thus, classroom management refers to all teacher efforts to oversee the activities of the classroom including learning, social interaction, and student behavior.

Creating an optimum instructional climate is no easy task. Rust (1992) cites anecdotal evidence from first-year teachers who report high levels of stress and frustration as the result of classroom management concerns. Although discipline was targeted as a primary concern, other more general aspects of classroom management were also reported as sources of frustration. Teachers also described a sense of shock and disillusionment with the new-found realities of the classroom.

Perhaps more distressing is Kagan's (1992) synthesis of the literature which reveals that the majority of studies indicate subjects perceive a "lack of connection" between the information provided in teacher preparation coursework and the real classroom (p. 156). Until recently teacher preparation programs focused almost solely on lesson presentation and did not consider classroom management to be a fundamental concern in its own right. While no one would negate the importance of instructional pedagogy, educators must now begin to recognize both effective instruction and effective classroom management as two vital and intertwined components of the instructional process (Johns, MacNaughton, & Karabinus, 1989).

Within this study, classroom management is defined as a multi-faceted construct that includes three broad dimensions -- person, instruction, and discipline. The person dimension includes what teachers believe about students as persons and

what they do to enable pupils to develop as individuals. Dimension two, the instructional dimension, incorporates what teachers do to enable students to learn such as the establishment and maintenance of classroom routines, physical room arrangement, and the use of time. Finally, the discipline component entails those behaviors that teachers use to set standards for behavior and to enforce those standards.

Although classroom management is regarded as an important construct for understanding the dynamics of teaching and learning, research efforts to explore the effects of classroom management are limited by the quality of instruments presently available to measure teacher perceptions and beliefs. Willower, Eidell, and Hoy's classic (1967) monograph describes the Pupil Control Ideology (PCI) scale which is based on an ideological continuum. The continuum ranges from custodial, where the main concern is the maintenance of order, to humanistic, where school is perceived as a community in which its members learn via interaction and experience.

More recently, Wolfgang and Glickman (1980, 1986) conceptualized another framework to explain teacher beliefs toward discipline. The framework is the foundation for the Beliefs on Discipline Inventory (BDI). Based on a combination of psychological interpretations, the continuum illustrates three approaches to classroom interaction -- non-interventionists, interventionists, and interactionalists. The non-interventionist presupposes the child has an inner drive that needs to find its expression in the real world. Proponents of transactional analysis or Gordon's *Teacher Effectiveness Training* (1974) are considered non-interventionists. At the opposite end of the continuum are interventionists, those who emphasize what the outer environment of people and objects does to the human organism to cause it to develop in its particular way. Traditional behavior modification provides the foundation for this school of thought.

Midway between these two extremes, interactionalists focus on what the individual does to modify the external environment as well as what the environment does to shape him or her. Adler, Dreikurs, and Glasser are considered to be interactionalists. Wolfgang & Glickman's (1980; 1986) assumption is that teachers believe and act according to all three models of discipline, but one usually predominates in beliefs and actions.

Although a large body of discipline research using the PCI and the BDI exists, little has been done regarding the broader concept of classroom management. The purpose of this study was to utilize confirmatory factor analysis to examine the construct validity of a new instrument measuring perceptions toward classroom management, the Inventory of Classroom Management Style (ICMS).

Methodology

Participants

College students enrolled at a mid-sized university in the south were drawn from sections of education courses. There were 238 participants. Novice teachers, those with three years or less of classroom teaching experience, comprised 55% of the group. The subject pool was 87.4% female; 81% taught sixth grade or below. Subjects ranged in age from 19 to 61, with an average age of 31.7% years. The majority (87.8%) of the subject pool was Caucasian.

Instruments

Data were collected via the Inventory of Classroom Management Styles (ICMS) and a researcher-constructed demographics sheet. The ICMS represents a major revision of the Beliefs on Discipline Inventory (BDI) (Glickman & Tamashiro, 1980; Wolfgang & Glickman, 1980, 1986). Because the BDI pertains only to teacher beliefs regarding discipline rather than the more broad subject of classroom management, it was considered too narrow in focus for this study. In

addition to the discipline dimension, the ICMS includes the instructional and person dimensions of classroom management.

The ICMS is based on a conceptual framework that delineates the three dimensions of classroom management into 24 subdimensions as listed in Appendix A. Two items were written for each subdimension; the wording of one item reflects the "more controlling" (interventionist) end of the management continuum, and the second item reflects the "less controlling" (non-interventionist) end. Thus the ICMS consists of 48 Likert format statements which classify respondents as typically interventionist, interactionalist, or non-interventionist based on total score. Of the 48 items, 12 items measured teacher attitudes towards students as persons; 24 items measured teacher beliefs in regard to classroom management during instruction; and 12 items measured teachers' beliefs about discipline. Appendix B indicates the format of the ICMS and presents some example items.

A four category response scale for each item was utilized with categories defined as *Describes Me Very Well, Describes Me Usually, Describes Me Somewhat,* and *Describes Me Not At All.* Scores on the ICMS range from 48 (most non-interventionist) to 192 (most interventionist); scores approaching the mid-point of the scale are indicative of interactionalist ideology. Actual scores ranged from 91 to 158 with a mean of 123 and a SD of 11.2. Cronbach's alpha reliability on the ICMS is .6985.

Data Analysis

All factor analyses were conducted using principal components analysis with a varimax solution. As the intent of the study was to confirm the hypothesized three dimensions of classroom management, the analyses was specified to have a three factor solution.

SPSS for the Macintosh 4.0 was utilized for the analyses. Output consisted of the initial principal components analysis with eigenvalues and percent of variance

explained reported, a scree plot, the factor matrix of a specified factor principal components analysis, and the rotated factor matrix. All varimax rotations converged in less than 10 iterations.

The adequacy of each solution was judged based on the following criteria: 1) factor loading greater than |.30|; 2) item loaded primarily on one factor; 3) meaningful interpretation of scree plots and eigenvalues; and 4) maximization of variance explained.

Results and Discussion

The initial analysis sought to confirm the three constructs of the ICMS (person, instruction, and discipline). The three factor varimax solution explained 23.9% of the variance. Examination of the factor loadings (Table 1) revealed that 13 items loaded on the first factor; 17 items loaded on the second factor; and 10 items loaded on the third factor. Eight items did not have loadings on any factor that met the criterion of being larger than .30 in absolute value.

Insert Table 1 here

Inspection of the pattern of factor loadings indicated that each factor consisted of person, instruction, and discipline items that had no substantive connections. However, further examination showed that the great majority of items (11 of 13) loading on the first factor were all "more controlling" items. Similarly, all 17 items loading on factor two were "less controlling" (non-interventionist), and the majority of items (7 of 10) items loading on the third factor were more interventionist. This seemed to imply that the nature of the language used in the items was more influential in determining item response patterns than the underlying dimensions defining the construct.

In order to mitigate the effects of language, a second factor analysis was conducted using only those 24 items of the ICMS that were constructed using "more controlling" (interventionist) language. Although the resulting three factors consist of a mix of items originally designated as person, instruction, and discipline items, the factor pattern is substantively interpretable. 31.2% of the variance was explained by the three factor solution. Table 2 shows the factor loadings.

Insert Table 2 here

Results indicate the existence of three subdimensions; however, the three identified subdimensions do not fully confirm the three hypothesized constructs of the ICMS, i.e., person, instruction, and discipline. Factor 1 of the varimax solution contains 11 items with acceptable factor loadings. Nine of the 11 items are instruction items while two are discipline items. However, the content of all items reflects concerns about instructional management: deciding what topics to teach, specifying time for activities, having daily routines, acknowledging the importance of rules, allocating classroom materials, keeping students on-task, assigning seats, setting rules, delineating classroom territory, dealing with off-task behavior, and circulating during seatwork.

The second factor contained eight items dealing with interaction and communication in the classroom; these items pertained to feedback to students, giving directions, needing directions, facilitating student relations, setting guidelines, dealing with disruptions, reminding students of assignments, and explaining rules. Two of the eight items were instruction items, three were person items, and three were discipline items. The third factor contained only two person items; both items dealt with beliefs about making students successful in school.

These factors have some overlap with the hypothesized three constructs. The original instruction dimension was theorized to represent what teachers do to enable students to learn, and this basic idea is contained within the Instructional Management factor (Factor 1). The original person dimension represented what teachers believe about students as persons and what teachers do to enable students to develop as persons including establishing the classroom's psychosocial environment. Numerous aspects of this concept are reflected in the Interaction and Communication factor (Factor 2).

Noticeably absent from the factor analysis is the delineation of a discipline factor. The results seem to indicate that discipline may not be regarded by teachers as a separate issue but rather an issue that is inextricably connected to instructional management and classroom interaction. This conclusion contradicts the suppositions of classroom management theorists (Wolfgang & Glickman, 1980, 1986; Dreikurs, 1990) who posit that corrective discipline is an issue separate from routine classroom management.

In addition, results showed that the language used to construct items is a factor in item response patterns. The use of redundant items which are differentially worded to express opposite ends of a continuum is generally desirable (DeVallis, 1991), particularly for instruments measuring beliefs and perceptions. However, it may be that trends in classroom management towards "legitimate" schools of thought such as democratic leadership, cooperative discipline, etc., have led teachers to believe that some responses toward classroom management are not socially acceptable. Thus teachers may have a stronger reaction to the language used in classroom management surveys, thereby masking the true response.

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TABLE 1
RESULTS OF FACTOR ANALYSIS
(VARIMAX ROTATION, 3 FACTORS SPECIFIED, 48 ITEMS)

	FACTOR 1	FACTOR 2	FACTOR 3
I 18	.70350		
I 10	.60263		
I 15	.59652		
I 17	.56086		
I 16	.54150		
16	.51809		
141	.47753		
133	.46195		
123	.44757		.36369
131	.36952		
139	.33101	.30011	
I 19	.32504		
128	-.30294		
121			
144			
134			
13			
17		.59691	
148		.58732	
I 11		.55517	
132		.51535	
I 12		.50726	
19		.46764	
11		.46494	
147		.44095	
145		.43777	
12		.43468	
138	.34391	.41967	
I 13		.37323	-.31069
129		.37078	
143		.35397	
120		.35283	
140		.33385	
136		.32152	
124			
126			.63851
125			.56438
18			-.52280
135			.50898
127	.34949		.46362
15		.30715	-.43255
122			-.42966
137			.40769
142			.39682
146			.34493
I 14			
14			
130			

TABLE 2
RESULTS OF FACTOR ANALYSIS
(VARIMAX ROTATION, 3 FACTORS SPECIFIED, 24 INTERVENTIONIST ITEMS ONLY)

	FACTOR 1	FACTOR 2	FACTOR 3
I 10	.61080		
I 19	.59235		
I 23	.57639		
I 18	.55727		.47526
I 17	.53560		
I 21	.49617		
I 15	.48271		
I 16	.46602		
I 39	.42937		
I 6	.41769		.33406
I 4	.34113		
I 3			
I 44			
I 26		.72587	
I 25		.62449	
I 35		.52175	.39605
I 37		.46566	
I 27	.37409	.44963	
I 46		.43848	
I 42		.37956	
I 14		.30656	
I 33			.64272
I 31			.63390
I 34			

APPENDIX A

FRAMEWORK FOR *INVENTORY OF CLASSROOM MANAGEMENT STYLE* DIMENSIONS OF TEACHER CLASSROOM MANAGEMENT BEHAVIOR

I. PERSON DIMENSION -- what teachers believe about students as persons and what teachers do to enable students to develop as persons

A. TEACHER'S PERCEPTIONS OF THE NATURE OF STUDENTS
1. personal attributes
2. independence/capabilities of students

B. PSYCHOSOCIAL CLIMATE
1. personal attention/worth
2. opportunity for success
3. group spirit and purpose
4. classroom climate (warmth, friendliness, courtesy, respect)

II. INSTRUCTION DIMENSION -- what teachers do to enable students to learn

A. PHYSICAL ENVIRONMENT
1. territory
2. seating
3. materials

B. TIME
1. how to allocate time
2. diversions from task

C. CLASSROOM ROUTINES
1. daily routines
2. transitions

D. MONITORING LEARNING BEHAVIOR
1. keeping on-task
2. circulating
3. feedback on performance
4. choice of learning topic/task
5. purpose of homework

III. DISCIPLINE DIMENSION -- what teachers do to set standards for behavior and to enforce those standards

A. RULE SETTING
1. who sets rules
2. importance of rules
3. rule negotiation

B. ACKNOWLEDGMENT OF APPROPRIATE/INAPPROPRIATE BEHAVIOR
1. handling of non-compliance
2. handling of disruptions
3. types of praise/reward

APPENDIX B

FORMAT FOR ITEMS ON THE *INVENTORY OF CLASSROOM MANAGEMENT STYLE* (ICMS)

	Items with "more controlling" (interventionist) language	Items with "less controlling" (non-interventionist) language
Person	3, 27, 31, 33, 35, 37	1, 5, 7, 9, 11, 29
Instruction	4, 6, 10, 15, 17, 19, 21, 23, 25, 26, 34, 39	2, 8, 12, 13, 28, 30, 32, 41, 43, 45, 47, 48
Discipline	14, 16, 18, 42, 44, 46	20, 22, 24, 36, 38, 40

SAMPLE ITEMS -- *INVENTORY OF CLASSROOM MANAGEMENT STYLE*

Directions: For each item, check the option (Describes me very well, Describes me usually, Describes me somewhat, or Describes me not at all) that **best** describes your beliefs or describes what you would do in the classroom. DO NOT SKIP ANY ITEMS.

PERSON DIMENSION

5. I believe my responsibility as a teacher is to provide opportunities for students to discover their own talents and abilities.
31. I believe my responsibility as a teacher is to reward those students who do well.

11. I believe warmth, friendliness, and respect for fellow students is something that students have to learn first-hand through free interaction.
37. I would never allow students to treat each other with anything other than friendliness, courtesy, and respect.

INSTRUCTION DIMENSION

15. I assign students to specific seats in the classroom.
41. I allow students to select their own seats.

21. While teaching a lesson on library skills, a student begins to talk about the research she is doing for her book report. I would remind the student gently but firmly that the class has to finish the lesson before the end of the class period.
47. During a lesson on the Bill of Rights, a student begins to tell a story about a neighbor who was falsely arrested for selling drugs. I would let the student tell the story and encourage other students to discuss their fears and feelings.

DISCIPLINE DIMENSION

14. If students agree that a classroom rule is unfair, I will explain the reason for the rule.
36. If students agree that a classroom rule is unfair, then I would replace the rule with a rule that students think is fair.

20. When one of the more conscientious students does not complete an assignment on time, I will assume that the student has a legitimate reason and that the student will turn in the assignment when it is completed.
42. When one of the more conscientious students does not complete an assignment on time, I will remind the student that the assignment is late.